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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/698,214   | 10/31/2003  | Lianzhong Yu         | H0001785            | 1499             |
| 128  | 7590        | 12/23/2004           | EXAMINER            |                  |
| HONEYWELL INTERNATIONAL INC.<br>101 COLUMBIA ROAD<br>P O BOX 2245<br>MORRISTOWN, NJ 07962-2245 |             |                      | KWOK, HELEN C       |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2856                |                  |

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/698,214

Applicant(s)

YU, LIANZHONG

Examiner

Helen C. Kwok

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 2-7 and 10-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/18/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I (Claims 1-11) in the reply filed on October 14, 2004 is acknowledged.
2. Claims 12-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 14, 2004.

### ***Claim Objections***

3. Claims 1-11 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 13, the phrase "the array of integral devices" should be changed to – the array of integrated devices --.

In claim 2, line 1, the word – the – should be inserted before the word "micromachining". In line 5, the word – the – should be inserted before the word "micromachining".

In claim 3, line 1, the word – the – should be inserted after the word "wherein".

In claim 4, line 1, the word – the – should be inserted after the word "wherein". In line 5, the word – the – should be inserted before the word "micromachining".

In claim 5, line 1, the word "machining" should be changed to – the

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micromachining --.

In claim 6, line 2, the word "wafers" should be changed to -- wafer --. In line 4, the word "wafers" should be changed to -- wafer --.

In claim 8, line 14, the word "wafer" should be changed to -- wafers --. In line 20, the word "wafer" should be changed to -- wafers --. In line 21, the word "feature" should be changed to -- features --. In line 21, the word "wafer" should be changed to -- wafers --.

In claim 10, line 2, the word -- the -- should be inserted before the word "forming". In line 5, the word -- the -- should be inserted before the word "forming". In line 7, it appears that the phrase -- for motion -- should be inserted after the word "suspended". In line 8, the word -- the -- should be inserted before the word "permanently".

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,236,118 (Bower et al.).

Bower et al. discloses a process for alignment and bonding of wafers comprising, as illustrated in Figures 1-8, micromachining 10 an array of first three dimensional

micromechanical device features in a first silicon wafer; micromachining 10 an array of second three dimensional micromechanical device features in a second silicon wafer wherein the second array of device features being configured to cooperate with the first array of device features when joined therewith; aligning 12 the first and second arrays of device features; joining 26 the first and second arrays of device features into an array of integrated micro devices as a function of joining the first and second wafers into a single composite wafer; and separating the array of integrated devices into individual devices. (See, column 3, line 31 to column 8, line 63).

With regards to claims 8-9, the claims are commensurate in scope with claim 1 and are rejected for the same reasons as set forth above. Furthermore, Bower et al. further discloses high temperature silicon fusion bonding the first and second wafers. (See, column 4, lines 19-22; column 7, lines 61-63).

#### ***Allowable Subject Matter***

6. Claims 2-7 and 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to bonding wafers or substrates having aligned markings.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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Helen C. Kwok  
Art Unit 2856

hck  
December 17, 2004